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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MEW, KEVIN D

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/056,823	Applicant(s) KAUSHIK ET AL.	
	Examiner Kevin Mew	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2002.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7,12,16-18,22-28,36,37,41-47,53,57 and 58 is/are rejected.
7) ☒ Claim(s) 8-11,13-15,19-21,29-35,38-40,48-52,54-56 and 59-61 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 1/24/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In particular, lines 1 and 2 of the abstract should be corrected in order to avoid using the term "described" in the abstract. In addition, the first line of the abstract is repeating information given in the title of the instant application. The square bracket "[0046]" should be removed from the abstract page and square brackets [c1] through [c61] should also be removed from the "Claims" section.

Appropriate correction is required.

Claim Objections

2. Claims 1-6, 14, 22-40, 42, 52, 56 are objected to because of the following informalities:

In line 1, claims 1-6, 22-40, replace the term "Fibre" with the American English spelling "Fiber."

In line 1, claim 14, add the term "of" right after the phrase "the act."

In lines 7-8, claim 22, concatenate the term "to" with "receive a first message from a commit master switch through the port" instead of having them separate in two lines.

In line 2, claim 42, add the term "in" right after the phrase "more entries."

In line 4, claim 52, replace the phrase "the commit master" with "a commit master."

In line 2, claim 56, replace the term “instruction” with “instructions.”

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 7, 12, 18, 22-23, 28, 37, 41-42, 47, 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Crockett et al. (USP 5,619,644).

Regarding claim 1, Crockett discloses a fault tolerant method to update a Fiber Channel database (fiber channel storage subsystem, col. 5, lines 22-31), comprising:

receiving a first message from a commit master (secondary processor of secondary site receives data and control information from the primary processor of primary site, col. 5, lines 22-56);

detecting the loss of the commit master (detecting error condition of the primary processor of primary site, col. 9, lines 45-67, col. 10, lines 20-21); and

resending the first message to each of a specified one or more devices (resending data control information to the secondary site, col. 10, lines 20-27) if the first message or a prior message from the commit master includes update data (the message includes data update and control update, col. 9, lines 45-60), else aborting the update operation (else if the message

includes failure data, then temporarily suspend record updates for collecting failure information, col. 10, lines 46-54).

Regarding claim 22, Crockett discloses a Fiber Channel switch (fiber channel storage subsystem, col. 5, lines 22-31), comprising:

a port for receiving and sending message signals (upper port, lower port, Fig. 3);

a database storage for storing at least a portion of a database (secondary DASD, elements 116, Fig. 1);

a control unit for executing program instructions (storage controller, element 115, Fig. 1);
and

storage, readable by the control means, having instructions for causing the control unit to receive (secondary data mover, element 114, Fig. 1) a first message from a commit master (secondary processor of secondary site receives data and control information from the primary processor of primary site, col. 5, lines 22-56);

detect the loss of the commit master (detecting error condition of the primary processor of primary site, col. 9, lines 45-67, col. 10, lines 20-21); and

resend the first message to each of a specified one or more devices (resending data control information to the secondary site, col. 10, lines 20-27) if the first message or a prior message from the commit master includes update data (the message includes data update and control update, col. 9, lines 45-60), else aborting the update operation (else if the message includes failure data, then temporarily suspend record updates for collecting failure information, col. 10, lines 46-54).

Regarding claim 41, Crockett discloses a digital network (fiber channel storage subsystem, col. 5, lines 22-31), comprising:

a first switch adapted to initiate a database update operation (primary host initiates an database update, col. 5, lines 57-67 and Fig. 1);

a second switch communicatively coupled to the first switch (secondary host coupled to the primary host, Fig. 1), the second switch having database storage (secondary DASD, col. 5, lines 32-47 and element Fig. 1), a control circuit adapted to execute instructions (storage controller, element 115, Fig. 1), and a storage readable by the control circuit and having instructions encoded therein to cause the control circuit (microprocessor, element 370, Fig. 3)

to receive (secondary data mover, element 114, Fig. 1) a first message from a commit master (secondary processor of secondary site receives data and control information from the primary processor of primary site, col. 5, lines 22-56);

detect the loss of the commit master (detecting error condition of the primary processor of primary site, col. 9, lines 45-67, col. 10, lines 20-21); and

resend the first message to each of a specified one or more devices (resending data control information to the secondary site, col. 10, lines 20-27) if the first message or a prior message from the commit master includes update data (the message includes data update and control update, col. 9, lines 45-60), else aborting the update operation (else if the message includes failure data, then temporarily suspend record updates for collecting failure information, col. 10, lines 46-54).

Regarding claims 2, 23, 42, Crockett discloses the method of claims 1, 22, 41, further comprising updating an identified one or more entries in the Fiber Channel database with the update data (updating data and control information, col. 5, lines 47-56).

Regarding claims 7, 28, 47, Crockett discloses the method of claims 1, 22, 41, wherein the act of aborting comprises:

identifying which of the specified one or more devices can receive an abort message (identifying the secondary site can receive the failure information, col. 10, lines 20-27); and

sending the abort message to the identified one or more devices (correlating the failure information to the secondary site, col. 10, lines 20-27).

Regarding claims 12, 53, Crockett discloses the method of claim 1, wherein the act of receiving a first message further comprises verifying the update data received as part of the first message (first message comprises control information of the update data, col. 5, lines 48-58).

Regarding claims 18, 37, Crockett discloses the method of claims 1, 22, wherein the act of resending the first message comprises:

identifying which of the specified one or more devices can receive the resent message (identifying the secondary site can receive the failure information, col. 10, lines 20-27); and

resending the first message to those identified one or more devices (correlating the failure information to the secondary site, col. 10, lines 20-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-6, 24-27, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crockett in view of Banks et al. (US Publication 2005/0018619).

Regarding claims 3-6, 24-27, 43-46, Crockett discloses all the aspects of the claimed invention set forth in the rejection of claims 2, 22, and 41 above, except fails to explicitly show the method of claim 2, wherein the Fiber Channel database comprises a zoning database, a name service database, a security database and a management database.

However, Banks discloses a Fiber Channel system that implements a zoning database wherein the zoning database provides name service, security and management (paragraphs 0016, 0037, 0054).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the distributed storage system of Crockett with the teaching of Banks in implementing a zoning database that provides a name service, management and security functions.

The motivation to do so is to allow the creation of segmentation or zones within a fabric so that devices coupled to the fabric can be subdivided into logical groups of devices without the need to physically reconfigure the network, and to dynamically and quickly adapt the configuration of devices to varying network needs.

5. Claims 16-17, 36, 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crockett in view of Ofek et al. (USP 5,901,327).

Regarding claims 16-17, 36, 57-58, Crockett discloses all the aspects of the claimed invention set forth in the rejection of claims 2, 22, 41 above, except fails to explicitly show the method of claim 1, wherein the act of detecting the loss of the commit master comprises failing to receive a second message from the commit master within a specified time period.

However, Ofek discloses a remote data mirroring system that indicates a failure occurs if no response is received at a primary data storage system after a predetermined amount of time (col. 12, lines 42-61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the distributed storage system of Crockett with the teaching of Ofek in indicating an update failure condition if no acknowledgement is received after a specified amount of time such that the distributed storage system of Crockett will comprise a detection means to detect the loss of the commit master comprises failing to receive a second message from the commit master within a specified time period.

The motivation to do so is to set a timeout period condition to indicate whether a data update failure occurs or not.

Allowable Subject Matter

6. Claims 8-11, 13-15, 19-21, 29-35, 38-40, 48-52, 54-56, 59-61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 8, 29, 48, wherein the act of sending the abort message comprises sending a Release Change Authorization message.

Regarding claims 9, 30, 49, wherein the act of receiving a first message comprises:
receiving an Acquire Change Authorization message; and
sending an accept message to the commit master.

Regarding claims 10, 31, 50, wherein the act of receiving a first message comprises:
receiving a Stage Fabric Configuration message; and
sending an accept message to the commit master.

Regarding claim 51, wherein the instructions to receive a Stage Fabric Configuration message further comprise instructions to verify the update data.

Regarding claims 11, 32, 52, wherein the act of receiving a first message comprises:
receiving an Update Fabric Configuration message; and
sending an accept message to the commit master.

Regarding claims 13, 33, 54, wherein the act of receiving a first message comprises:

receiving a first update message from a first switch and a second update message from a second switch;

accepting one of the first or second update messages; and

rejecting the other of the first or second update messages.

Regarding claims 19, 38, 59, further comprising:

receiving a second message from one of the identified one or more devices; and

aborting the update operation specified in the resent message.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RICKY Q. NGO
SUPERVISORY PATENT EXAMINEE

Kevin Mew 
Work Group 2616